

Introduction

The role of impact analysis is to “fairly, objectively, and candidly display the projected impacts of each alternative” (NPS 2004). The potential impacts of each alternative on the environment are analyzed for each of the impact topics or subtopics discussed in Chapter 3. For each of the impact topics, an indicator or a suite of indicators is chosen for analysis based on U.S. Department of Interior (DOI) NEPA-related guidance, CEQA significance criteria, laws, regulations, policies, and local ordinances. In using indicators, CEQ requests that impacts be quantified as much as possible and described in terms of their context, duration, and intensity, which are described more below (NPS 2001). In addition, impacts must include not only direct impacts from project implementation, but indirect and cumulative impacts: these are impacts that are either indirectly associated with implementation of the proposed project or that result from actions taken outside the proposed project that affect the same resources as the proposed project.

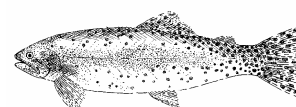
In addition to presenting the analysis of impacts, Chapter 4 describes the methodology used to evaluate potential impacts from the No Action and four action alternatives. The chapter first outlines a general methodology common to all impact topics and a list and short description of projects that will be considered during the cumulative impacts analysis. It then discusses the methodology specific to each impact topic addressed in Chapter 3 (e.g., Air Resources, Water Resources, Public Health and Safety).

Within each impact topic, the specific methodology used for evaluating impacts to the resource or public or social service is detailed, which includes any additional discussion of regulations, laws, policies, or ordinances needed to understand the framework for evaluation. An introduction to the relevant regulations, laws, policies, and ordinances often used to frame the description of the Affected Environment impact topics can be found in Chapter 3 for most of the impact topics. The impact topic methodology section also incorporates a description of the indicator or suite of indicators used to evaluate impacts, the assumptions used in evaluating impacts, the relevant context or contexts for the indicator or indicators used, and the specific thresholds used to assess intensity.

The impacts analysis section then assesses the potential impact of the No Action alternative and four action alternatives on each resource or service using the indicator or indicators discussed, characterizing the intensity, duration, and context of the impacts, as well as indicating whether they are direct or indirect. If measures, such as standardized best management practices (BMPs) for example, are mandatory or are certain to be implemented, impacts are analyzed assuming the measures are in place. These mitigation measures are described in Chapter 2. However, if mitigation depends on funding, permits or other decisions that are not absolute, impacts are analyzed both with and without mitigation in place. CEQA requires that mitigation measures must be fully enforceable to reduce an impact below the level of significance.

These impacts are then assessed relevant to other ongoing or reasonably foreseeable future projects within the local region or other appropriate frame of context to determine cumulative impacts to the resource or impact topic. The information for each impact topic is then summarized in a conclusions section.

Park Service policy also requires that sustainability and the long-term management implications of the proposed project be evaluated. This section evaluates: 1) The relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity; 2) Any irreversible or irretrievable commitments of resources that would be involved if the proposed project were implemented; and 3) Any adverse major impacts that could not be avoided or fully mitigated if the proposed project was implemented. In addition, CEQA mandates disclosure of: 1) Significant environmental effects which cannot be avoided if the proposed project is implemented and 2) Significant irreversible environmental changes which would be involved in the proposed project should it be implemented; as well as 3) Growth-inducing impact of the proposed project.



General Methodology for Assessing Impacts

National parks are directed to assess the extent of impacts on resources and services as defined by the context, duration, and intensity of the effect. For the purposes of the proposed project, which incorporates both Park Service and State lands, potential impacts are generally described in terms of the nature of the impact (Are the effects beneficial or adverse?), duration (Are the effects restricted to the construction period, relatively short-term, or long-term?), intensity (Are there no effects or would effects be negligible, minor, moderate, major, or constitute impairment of park resources), type of impact (Are the effects direct, indirect, and/or cumulative?) , and context (Are the effects restricted to the Project Area, local community, watershed, region, or supraregional or spanning larger regions or many regions; Table 22). Because definitions of intensity (negligible, minor, moderate, major, or impairment) and context (Project Area, local community, watershed, regional, etc.) vary greatly by impact topic, more detailed intensity and context definitions are provided separately for each impact topic analyzed in this document. A more detailed description of these categories and the general methodology for impact analysis can be found below.

Baseline Conditions

The use of the word, “change,” implies a change relative to some existing condition. The change or impact potentially caused by the proposed project is typically evaluated relative to the baseline condition. For an EIS or EIR, baseline conditions are typically described as the conditions within the Project Area at the time the Notice of Intent and/or Notice of Preparation is issued. A general description of baseline conditions can be found in Chapter 2. A detailed description of resources and services in the Project Area and vicinity is the subject of Chapter 3 and the basis for evaluating potential impacts for implementation of the No Action or any one of the four action alternatives.

Nature of Impacts

Impacts from the proposed project can either be **Beneficial** by enhancing or improving resource values or social values and services or **Adverse** by degrading or lessening resource values or social values and services. Some actions can have both adverse and beneficial impacts. In addition, in some cases, the change would be considered neutral or not really beneficial or adverse. These neutral impacts are not evaluated in Chapter 4.

Intensity of Impacts

In a sense, the evaluation of the intensity of impacts represents one of the most important parts of Chapter 4, NEPA and CEQA approach the issue somewhat differently.

TABLE 22. GENERAL METHODOLOGY FOR ASSESSING IMPACTS

Nature	Describes the nature of the impact's overall effect on the environment. Nature is generally described as: <i>Beneficial</i> (enhancing or improving resource values or social services and values); or <i>Adverse</i> (lessening or degrading resource values or social services and values). Some projects may effect change that is considered to have a neutral impact or a change that would be considered neither beneficial nor adverse. These neutral changes are not evaluated in Chapter 4.
Intensity	Describes the degree to which an impact would affect a given resource or service. For the proposed project, impacts are generally described as: <i>No impact</i> (causing no change); or <i>Negligible</i> (causing no measurable change or change that is barely detectable and often within the natural range of variability); or <i>Minor</i> (causing small, but detectable or measurable change); or <i>Moderate</i> (causing apparent or appreciable change); or <i>Major</i> or <i>Substantial</i> (causing striking, highly-noticeable change. Often considered a “significant” effect under CEQA); or <i>Impairment</i> (causing substantial change to park resources that violates conditions of the Organic Act or park legislation: relevant to Park Service lands only).



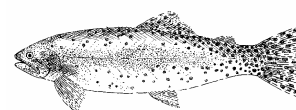
TABLE 22. GENERAL METHODOLOGY FOR ASSESSING IMPACTS

Duration	Describes the length of time that an impact would affect a given resource. Many impacts can occur over multiple timeframe or duration periods. Duration is generally described as: <i>Construction</i> (restricted to the construction period only); or <i>Short-term</i> (restricted to a two- to three-period only); or <i>Long-term</i> (continuing beyond two to three years).
Type	Describes the type of relationship between the proposed project and the impact. Type is generally described as: <i>Direct</i> (actions of the proposed project would directly effect this change); or <i>Indirect</i> (actions of the proposed project would not effect this change, but would enable change to occur, or change would occur later in time, or farther in distance than the actions); and/or <i>Cumulative</i> (actions of the proposed project would have an additive effect with the actions of other past, ongoing, or reasonably foreseeable future projects).
Context	Describes the geographic context in which the impacts will be evaluated. Impacts may be evaluated using one or multiple contexts. Context is generally described as: <i>Project Area</i> (limited to the Project Area); and/or <i>Local Community</i> (extending beyond the Project Area to the neighboring human communities in southern Tomales Bay); and/or <i>Watershed</i> (extending beyond the Project Area and southern Tomales Bay to encompass the entire Tomales Bay watershed); and/or <i>Regional</i> (extending beyond the Tomales Bay watershed to encompass 1) the entire park; OR 2) coastal Marin County; OR 3) the entire Marin County; OR 4) entire San Francisco Bay area (this can include Critical Habitat Recovery Units for certain special status wildlife species); and/or <i>Supraregional</i> (extending beyond the San Francisco Bay area to either the entire state or coastline of California or some multijurisdictional range for a special status species, etc.).

Under NEPA, this evaluation provides information on the intensity or degree of impacts that have been determined through earlier review to be potentially significant and is relevant to the choice of a particular NEPA “pathway” (e.g., Environmental Assessment or EIS). Under CEQA, this analysis enables the CEQA lead agency to determine whether an impact on the environment will be significant or less than significant on the environment. The *State CEQA Guidelines* defines “significant effect on the environment” as: “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance” (*Guidelines* Section 15382). Under both NEPA and CEQA, the potential for significant impacts on the environment or human environment trigger a more detailed evaluation and analysis of a proposed project through preparation of an EIS or an EIR, however, for CEQA, only **adverse** changes require preparation of an EIR, while, under Department of the Interior (DOI) NEPA guidelines, both potentially significant adverse **or** beneficial changes may require preparation of an EIS.

In determining significance of impacts, many CEQA documents such as EIRs generally categorize impacts as “significant” or “less than significant” based on stated significance criteria. As noted above, CEQA defines significance as a substantial or potentially substantial adverse change on the environment. CEQA has developed criteria that should be considered in determining whether the proposed project will have an effect on the environment, such as *Guidelines* issued both by the state and the County of Marin. However, within these guidelines, the definition of significant in terms of what is a “substantial” or significant effect has been left to lead agencies to determine. In CEQA, the point at which an impact goes from being less than significant to significant is called a threshold of significance. The threshold of significance is either a quantitative or qualitative standard, or set of criteria, pursuant to which the significance of a given environmental effect may be determined (OPR 1994). Under CEQA, significant impacts can be mitigated through measures designed to avoid or reduce the level of impact to less than significant. Those significant impacts that cannot be mitigated to a level that is less-than-significant are discussed under the “Avoidable and Unavoidable Major or Significant Adverse Impacts” section.

CEQ, which regulates implementation of NEPA, does not use significance other than to determine the appropriate NEPA pathway. DOI provides general criteria to guide evaluation during early planning stages of whether a proposed project might “significantly affect the quality of the human environment.” To determine whether impacts might be significant, an identified threshold of significance can be used such that proposed projects whose impacts potentially fall above the established threshold would be considered to have potentially significant effects (Bass et al. 2001). Once the potential for a significant effect is determined to exist, significance is no longer used to evaluate specific impacts. Rather, the Park Service documents typically incorporate a fairly broad range of evaluation criteria or impact thresholds to determine the level or intensity



of an effect, ranging from negligible or barely detectable change to major or striking or highly apparent change.

Because this document must satisfy both NEPA and CEQA requirements, impacts will be analyzed using a broad range of evaluation criteria or impact thresholds, with the level or an intensity of effects ranging from negligible to major or substantial change. For each impact indicator, the intensity of effect associated with a substantial or significant impact under CEQA will be identified. Some agencies establish standard thresholds that are used for environmental compliance for all agency projects. Because considerations of intensity and context vary widely from park to park and even between projects within parks, the Park Service does not necessarily encourage parks to develop standardized impact thresholds. The CSLC has also not adopted thresholds.

Even when there are no standardized thresholds, the Park Service encourages project proponents to develop impact thresholds or evaluation criteria for individual projects to assist in analyzing the intensity of impacts for resource topics being evaluated. For this project, then, evaluation or significance criteria were specifically developed for indicators under each impact topic using information from a variety of sources. These sources included federal, state, and local regulations, laws, and policies; consultation with subject matter experts; best professional judgment of document preparers; and thresholds established for other Park Service projects, wetland restoration projects in the region and state, and local projects that are not necessarily wetland-related.

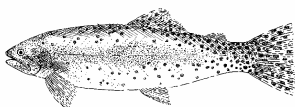
Evaluation or significance criteria may be based on standards such as the following:

- A health-based standard such as air pollutant emission standards, water pollutant discharge standards, or noise levels.
- Service capacity standards such as traffic level of service, water supply capacity, or waste treatment plant capacity.
- Ecological tolerance standards such as physical carrying capacity, impacts on declared threatened or endangered species, loss of prime farmland, or wetland encroachment.
- Cultural resource standards such as impacts on historic structures or archaeological resources.
- Other standards relating to environmental quality issues, such as those listed in the Guidelines' Initial Study Checklist or Appendix G of the Guidelines.

The DOI NEPA Guidelines encourage development of impact thresholds or evaluation criteria that are "based to the extent possible on scientific and factual data" and legal standards and policies (NPS 2004). Criteria may be either qualitative or quantitative, although impacts should be quantified as much as possible (NPS 2004). Some effects, such as traffic or noise, lend themselves to numerical standards; others, such as aesthetics are difficult to quantify and may rely more upon qualitative descriptions. In addition, qualitative standards may be used when available information is not sufficient enough to warrant use of numerical standards or to be able predict quantitatively the outcome should a particular alternative be implemented.

In this document, evaluation or significance criteria are generally based on the following analytical approaches:

- *Change/Trend*: The degree to which existing levels or areal extent of a particular resource might change should the proposed project be implemented and the direction of that change (i.e., increase, decrease).
- *Target/Threshold*: Effects of the proposed project on a particular resource relative to a target or threshold. Target or threshold numbers may derive from regulations, laws, or policies (e.g., water quality objectives in the RWQCB Basin Plan or acreage "triggers" in regulations governing impacts to wetlands and riparian habitat) or more subjective evaluation of the threshold at which significant impacts might occur (e.g., degree of flooding relative to existing conditions). Some of the target/threshold criteria may assess the project in relation to existing conditions of a particular resource or resource issue such that the focus is on the proposed project's contribution to the total "load" or whether implementation of the proposed project would add to existing levels such that a threshold might be crossed (e.g., water quality objectives, flooding, salinity intrusion into municipal groundwater wells, etc.).
- *Qualitative*: When quantitative thresholds are not available or do not make sense, changes that might result from the implementation of the proposed project are discussed in a qualitative rather than in a quantitative or semi-quantitative manner.



Impairment

For Park Service lands, another criterion is evaluated, which is the potential for impairment of park resources. The Park Service Management Policies (NPS 2001) require an analysis of potential effects of proposed projects to determine whether or not actions would impair park resources identified as a Park Service goal or in enabling legislation or as key to integrity of the park.

The fundamental purpose of the national park system, as established by the Organic Act and reaffirmed by the General Authorities Act, begins with a mandate to conserve park resources and values.

The Organic Act of 1916 states that the Park Service:

...shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations...by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein...

Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values. However, the laws do give the Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible Park Service manager, would harm the integrity of park resources or values.

An impact to any park resource or value may constitute impairment, but an impact would be more likely to constitute impairment to the extent that it has a major or severe adverse effect upon a resource or value whose conservation is:

- Identified in the **Organic Act**;
- Necessary to fulfill specific purposes identified in the **establishing legislation** or proclamation of the park;
- Key to the natural or cultural **integrity of the park**; or
- Identified as a **goal in the park's general management plan** or other relevant Park Service planning documents.

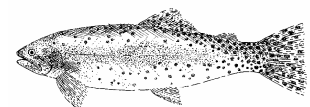
In general, potential for impairment is evaluated for cultural and natural resources and especially values which parks were specifically established to protect, such as the pastoral landscape. Impairment may also be considered for visitor experience when the condition of the resource directly affects the nature of the visit to the park. The Park Service does not address impairment with regards to operations, public health and safety, socioeconomics, and other non-resource topics.

Enabling legislation for the Seashore and for the GGNRA make clear reference to the natural historic, scenic, and recreational values of this portion of the central California coastline. The GGNRA was established by Congress "in order to preserve for public use and enjoyment certain areas of Marin and San Francisco Counties, California, possessing outstanding natural, historic, scenic, and recreational values, and in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning...(PL 92-589)." The north district of the GGNRA is administered by the Seashore. The Seashore was established by Congress "to save and preserve, for the purpose of public recreation, benefit, and inspiration, a portion of the diminishing seashore of the United States that remains undeveloped" (PL 87-657).

Impairment may not be allowed to occur from Park Service activities in managing the park, visitor activities, or activities undertaken by contractors and others operating in the park.

The following steps were taken to determine whether the alternatives had the potential to impair park resources and values:

1. The park's enabling legislation, the *General Management Plan*, and other relevant background were reviewed with regard to the unit's purpose and significance, resource values, and resource management goals or desired future conditions.



2. Management objectives specific to resource protection goals at the park were identified.
3. Criteria were established for each resource of concern to determine the context, intensity and duration of impacts, as defined above.
4. An analysis was conducted to determine if the magnitude of impact reached the level of "impairment," as defined by Park Service Management Policies.

Mitigation

Mitigation measures are actions undertaken to avoid, reduce, or offset identified adverse impacts. NEPA requires that an EIS must include a discussion of the "means to mitigate adverse environmental effects" (40 CFR 1502.16(h)). In an EIS, mitigation measures must be discussed for all impact intensities, major or otherwise. CEQA requires that significant adverse impacts must be mitigated. As noted earlier, significant impacts for the preferred alternative that, for some reason, cannot be mitigated to a level of insignificance are considered significant and unavoidable and discussed in a separate section of this chapter, "Avoidable and Unavoidable Major or Significant Adverse Impacts section" (State CEQA Guidelines 15126.2(b)). CEQ and State CEQA Guidelines recommend consideration of five types of mitigation measures: avoiding, minimizing, rectifying, reducing, and compensating (40 CFR 1508.20; State CEQA Guidelines 15370). Mitigation measures that are mandatory to implementation of the proposed project are discussed in Chapter 2 and include Best Management Practices or BMPs to avoid, minimize, or reduce the impact from construction. Optional mitigation measures that are subject to further discussions with regulatory agencies, etc., are discussed in this chapter. In some cases, measures to avoid or reduce potentially adverse impacts were incorporated into the design of the alternatives and are not specifically identified as mitigation measures.

Duration of Impacts

For projects such as the one proposed, impacts from implementation can generally occur over three timeframes. Implementation or **Construction** generally has its own unique set of impacts that are limited to the construction period, such as noise or traffic potentially generated by construction equipment. Within the first few years after implementation, the Project Area would be in a disturbed state from recent construction even though the earthwork portion would have ended. During this **Short-Term** period, the potential for certain types of impacts might be higher due to the fact that vegetation has not had enough time to recolonize within portions of the Project Area disturbed by earthwork activities. The potential for these short-term impacts decreases considerably after the first few years. **Long-Term** impacts are those associated with what might be considered equilibrium or design conditions in the Project Area after earthwork-related and short-term disturbance conditions have passed. ***In general, if impacts would potentially occur during all duration timeframes, but potential impacts during construction or shortly after construction would not differ from long-term ones, construction and short-term impacts are not separated from long-term ones.***

Type of Impacts

Both NEPA and CEQA require the consideration of direct, indirect, and cumulative impacts that might result from the proposed project. **Direct** impacts are those that occur at the same time and location as the proposed project. For example, excavation of sediment as part of the proposed project removes soils and alters topographic resources, which would be the direct impacts. Conversely, **Indirect** impacts are those actions that occur later in time or are located at a distance from the proposed project. For example, sediment that falls into adjacent waters can increase turbidity thousands of feet downstream of the proposed project, and projects that increase visitor facilities can indirectly encourage growth-inducing impacts that occur later in time. For many projects, indirect effects are often ones that are related to changes in land use patterns, population density, or growth rate that may subsequently affect air, water, and other natural systems (Bass et al. 2001). If there is uncertainty regarding future land use, agencies are not required to speculate regarding future uses, but to make an educated decision based on "reasonably foreseeable occurrences" (Bass et al. 2001). **Cumulative** impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Under the State CEQA Guidelines, cumulative impacts refer to two or more individual affects which, when



considered together, are considerable or which compound or increase other environmental impacts (State CEQA Guidelines 15355). Cumulative effects are discussed in more depth later in this chapter.

Context of Impacts

The geographic area or boundary in which impacts to a particular resource or service are pertinent and need to be evaluated varies considerably among impact topics. For the proposed project, several general contexts were identified, which included the **Project Area** (the Giacomini Ranch, Olema Marsh, and portions of the undiked marsh north of the Giacomini Ranch); the **Local Community** (towns of Point Reyes Station, Inverness Park, Olema, and northern portion of the Olema Valley); **Watershed** (the entire Tomales Bay watershed stretching from the highest elevations of the Coast Range to the mouth of Tomales Bay and the Pacific Ocean); **Region** (varies from the Seashore and the north district of the GGNRA to Marin County to the entire San Francisco Bay region); and **Supraregion** (encompassing either the state, portions of the state of California such as central California, or ranges for wildlife and plant species). In certain instances, impacts to resources are considered from several contextual levels such as Project Area and watershed.

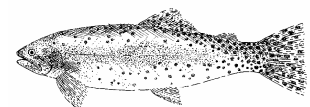
Projects Considered in Cumulative Impacts Analysis

While this document focuses on the Giacomini Wetland Restoration Project, specifically on the proposed actions and their impacts, ultimately, the effects of the proposed actions on physical, natural, and socioeconomic resources are integrally tied to the effects of other proposed projects and cannot be evaluated without considering the cumulative effect of relevant actions. A cumulative effect is "...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." Under the State CEQA Guidelines, cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (State CEQA Guidelines 15355). Cumulative effects may be the result of multiple, individually minor actions that aggregate to produce an adverse result over a period of time (40 CFR Sec. 1508.27), and a significant impact may exist if an action is related to other actions that have individually insignificant, but cumulatively significant, impacts (40 CFR Sec. 1508.27[b][7]). Cumulative effects may exert additive impacts on a resource or service, or effects may be synergistic (i.e., multiplicative or non-linear in cumulative effect) or even to some degree offsetting with one project potentially benefiting and another impacting a resource.

NEPA and CEQA require agencies to analyze the potential of their proposed actions to contribute to any cumulative effects identified in the project region or other appropriate context. Because **cumulative effect** refers by definition to a combined effect, there is no cumulative effect on a resource unless more than one action affects that resource, or a single action or activity results in repeated, but discrete, effects on the resource. Accordingly, the first step in analyzing cumulative effects is to identify the resources that have the potential to be affected by more than one action or activity during the timeframe analyzed. Once the cumulative effects have been identified, a proposed action's potential to contribute to each can be evaluated.

This document used the "list" approach, in which the additive, synergistic, or offsetting effects of specific actions proposed for an area are considered as a whole. For most resources, this cumulative effects analysis addressed the Tomales Bay watershed, including Olema Valley, with the following exceptions:

- Effects on air quality were analyzed for the watershed and adjacent downwind portions of the Bay Area Air Quality Management District (BAAQMD);
- Effects on traffic were analyzed for the whole of Marin County; and
- Effects on wildlife and certain plant species were analyzed based on the localized portion of the range or distribution that might be affected. Range or distribution during critical portions of a wildlife species' life cycle, such as breeding, nesting, or rearing, were considered most important. The range or distribution analyzed varied among species, with the principal Regions of Influence being: 1) the entirety of the Seashore and north district of GGNRA, 2) the Marin-Sonoma County coastline, 3) Marin County, and 4) San Francisco Bay.



The analysis included planned or “reasonably foreseeable” actions slated for implementation within the next 5 years (through 2011). Past, present, and “reasonably foreseeable” future projects are listed in Table 23. Information from other planning documents prepared both by the Park Service and other agencies and organizations was used to help compile information on projects being planned or considered. In addition, information on wetland restoration projects in Marin and San Francisco Bay was obtained from the San Francisco Wetland Project Tracker database/GIS system (www.projecttracker.org), as well as environmental documentation prepared for individual projects. Numerous small wetland restoration projects are currently being planned in San Francisco Bay in counties other than Marin. For the purposes of this analysis, restoration projects formally listed that are outside Marin County are limited to the largest projects that would be more likely to have a cumulative effect on actions undertaken outside San Francisco Bay on the Marin County coastline. However, the cumulative effect of these projects on wildlife and plant species is taken into account.

TABLE 23. ACTIONS INCLUDED IN CUMULATIVE EFFECTS ANALYSIS

Action, Location, and Project Proponent	Overview
Bear Valley Creek Watershed Enhancement and Fishery Restoration Project (Bear Valley; Marin; Point Reyes National Seashore Association/Coastal Conservancy/Seashore)	This action occurs directly upstream of Olema Marsh and the Project Area in the middle and upper portions of the Bear Valley Creek watershed. The proposed project would involve replacement of undersized and otherwise underperforming culverts with either new culverts or bridges. An enhancement plan is in the process of being prepared, with an Environmental Assessment (EA) expected in 2006-2007.
Residential Home Development; C Street, Point Reyes Station (Point Reyes Station; Marin)	While a project has not been proposed for the lands owned by the Giacomini Trust on C Street in Point Reyes Station directly adjacent to the Project Area, most of these parcels are zoned commercial-residential (CRAB-2). This action was considered to be a reasonably foreseeable action and was incorporated into the cumulative effects analysis. The total number of homes that could be potentially built on these lands is uncertain, but could total as many as 10 at maximum allowable buildout, although specific site circumstances could dictate decreased density.
Housing Development Project (Point Reyes Station, Marin; Pacific Artisans LLC)	Pacific Artisans LLC is proposing to develop four homes on a property located at the intersection of Pt Reyes-Petaluma Road and State Route 1. A fifth lot may be developed for low-cost housing. This site is located approximately 1.5 miles east of the Giacomini Ranch portion of the Project Area. The proposed project is in the planning and design phase.
North Marin Water District Adjunct Well Development (Point Reyes; Marin; North Marin Water District)	This proposed action would involve the construction of an additional well upstream of the Coast Guard wells to meet current demand, particularly during high tide periods in Lagunitas Creek when salinity intrusion events can occur. An exact location for this well has not been identified, although NMWD has strongly been considering further development of the existing emergency well at the Gallagher Ranch (Figure 37). The agency is currently seeking funding for this purpose.
Chicken Ranch Beach Wetland Restoration Project (Inverness; Marin; Environmental Action Committee/Tomales Bay Watershed Council)	This proposed action would occur on the western edge of Tomales Bay near Inverness approximately 3 miles northwest of the Project Area. The proposed project would create a functioning, self-perpetuating wetland, maintain an accessible swimming beach, and improve the potential water quality problems that may exist within one of the drainages to this former lagoon that was filled through the influence of a number of disturbance-related factors. A restoration plan is in the process of being prepared.
Coastal Watershed Restoration -- Drake's Estero Road Crossing (Point Reyes, Marin; Seashore)	This action includes the replacement or enhancement of road crossing facilities to accommodate natural hydrologic process and fish passage at six sites within the Drakes Estero watershed. These sites are located approximately 4.5 miles northwest of the Project Area. The Finding of No Significant Impact (FONSI) was approved in October 2006. Implementation is anticipated in 2007.
Horseshoe Pond Restoration to Coastal Lagoon (Point Reyes, Marin; Seashore)	This action involved the removal of spillway and dam materials to restore natural hydrologic and shoreline process to a 35-acre area immediately west of the mouth of Drake's Estero. This site is located approximately 7.3 miles northwest of the Project Area. It also restored and enhanced the access road, borrow quarry, and former waste lagoon to more natural conditions. The project was implemented in 2004.
Glenbrook Dam/Quarry Restoration Project (Point Reyes, Marin; Seashore)	This action involves the removal of dam remains and restoration of the borrow areas at the mouth of Glenbrook Creek in the Estero de Limantour. This site is located approximately 4.2 miles northwest of the Project Area. Implementation is anticipated in 2007.

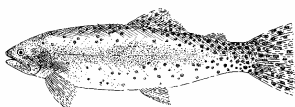


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Action, Location, and Project Proponent	Overview
Coastal Watershed Restoration – Geomorphic Restoration Project (Point Reyes, Marin; Seashore)	The project is intended to restore natural conditions and increase estuarine habitat at Point Reyes. At three sites – two near Limantour Beach and one at Glenbrook Creek -- construction across stream or estuarine habitat impedes natural process and is not consistent with long-term park and Park Service management objectives. The nearest of these sites is located approximately 2.9 miles west of the Project Area. An EA was released in fall 2004, and implementation is anticipated in 2007.
Sand, Rock, and Gravel Plan (Point Reyes, Seashore)	The Seashore has a number of quarries within the park that have been used by ranches for removing soils needed for ranch management. Because of the amount of land degradation, the Seashore is planning on restoring the quarries by either regrading the existing topography or rebuilding more natural topographic contours using imported soils. Compliance for actual restoration of the quarries will be undertaken in a separate environmental document.
General Management Plan Update (Point Reyes, Marin; Seashore)	The Seashore is currently in the process of updating its General Management Plan for the Seashore and the north district of GGNRA, specifically Olema Valley and Tomales Bay. This is a long-term strategic planning document that would establish management direction in the park for the next 10–20 years. Decisions made as part of that document have the potential to affect or to have a cumulative effect on the Giacomini project. The EIS is currently being prepared, and the planning process is expected to be complete by 2006-2007.
Lawson's Landing Master Plan (Dillon Beach, Marin; Lawson's Landing)	Lawson's Landing Campground and RV Park is in the process of preparing an EIR for master planning and expansion of the existing campground and RV Park. This facility is located approximately 14 miles from the Project Area at the very northern end of Tomales Bay. The project would involve construction of a septic system, new water tanks, and new buildings. The proposed project is currently in hiatus, but a new EIR may be prepared in the future.
East Shore Wastewater Improvement Project (Marshall, Marin; County of Marin)	The County is proposing to construct a community wastewater system to replace individual substandard and marginally operating septic systems for 91 currently developed commercial and residential properties in Marshall and to form a wastewater district. Marshall is located approximately 6.6 miles north of the Project Area in Tomales Bay. The County is currently conducting scoping for the proposed project.
Wetland and Creek Restoration at Big Lagoon (Muir Beach, Marin; GGNRA, County of Marin, Green Gulch Zen Center)	GGNRA is proposing a tidal wetland, riparian, and dune restoration project on lower Redwood Creek at Muir Beach. Muir Beach is located approximately 20.5 miles southwest of the Project Area. The project would eliminate or replace impediments to natural hydrologic processes such as bridges, berms, and earthen fill, thereby improving habitat for native habitats and wildlife. A draft EIS/EIR is currently being prepared, with possible implementation of the project in 2007.
Bolinas Lagoon Ecosystem Restoration Project Bolinas Lagoon Project (Cont.) (Bolinas, Marin; County of Marin, Corps)	In the late 1990s, the Corps in cooperation with the County of Marin proposed to dredge Bolinas Lagoon for the purposes of restoring this coastal ecosystem, which had been purportedly impacted by excessive sedimentation. Bolinas Lagoon is located approximately 12.4 miles southwest of the Project Area. Following public review of the draft document, the county assumed management of the project and began re-examining whether dredging for restoration was really necessary. A new EIS/EIR may be prepared in 2007.
Hamilton Wetland Restoration Project (Novato, Marin; Corps and Coastal Conservancy)	The Corps and Coastal Conservancy are proposing to restore tidal wetlands at the former Hamilton Army Airfield, adjacent CSLC property, and the Bel Marin Keys Unit V property on the western margin of San Francisco Bay. Hamilton is located approximately 17.4 miles northeast of the Project Area. Dredge material would potentially be used to restore wetland habitat on 988 acres at the Hamilton Airfield and CSLC property. A Final EIS/EIR and Supplemental EIS/EIR have been prepared.
Bahia Acquisition and Wetland Restoration Project (Novato, Marin; Marin Audubon Society)	Marin Audubon Society (MAS) is pursuing a 330-acre wetland restoration project at the Bahia property on the western margin of San Francisco Bay. Bahia is located approximately 15.2 miles northeast of the Project Area. The project is in the final phases of planning and should be implemented shortly.
Triangle Marsh (Corte Madera, Marin; Marin Audubon Society, Coastal Conservancy, BCDC)	MAS and the Coastal Conservancy are planning a 16-acre wetland restoration project at Triangle Marsh on the western margin of San Francisco Bay. The site is located approximately 21 miles southeast of the Project Area. This project is in the planning phase.

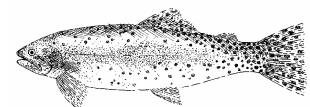


TABLE 23. ACTIONS INCLUDED IN CUMULATIVE EFFECTS ANALYSIS

Action, Location, and Project Proponent	Overview
Petaluma Marsh Expansion Project (Marin-Sonoma Counties; Marin Audubon Society, Coastal Conservancy)	MAS and the Coastal Conservancy are planning a 102-acre tidal marsh restoration project at MAS property in the Petaluma Marsh in north San Francisco Bay. Petaluma Marsh is located approximately 15 miles northeast of the Project Area. This project is in the planning phase.
Napa-Sonoma Marsh Restoration Project (San Pablo Bay, San Francisco Bay; Coastal Conservancy, Corps, California Department of Fish and Game)	The Coastal Conservancy, Corps, and California Department of Fish and Game (CDFG) are proposing a salinity reduction and habitat restoration project for the 9,460-acre Napa River Unit of the Napa-Sonoma Marshes Wildlife Area (NSMWA), formerly part of the Cargill Salt Pond operation in the North Bay of San Francisco. The site is located approximately 27 miles northeast of the Project Area. A Final EIS and EIR have been released, and the project is scheduled for implementation shortly.
South Bay Salt Pond Restoration Project (South San Francisco Bay; Coastal Conservancy; U.S. Fish and Wildlife Service, CDFG)	The State of California and the Federal government are conducting restoration of 15,100 acres of Cargill Salt Company's former salt ponds in South San Francisco Bay, which will be the largest wetland restoration project on the West Coast. The site is located approximately 62 miles southeast of the Project Area. Preparation of the draft environmental document is anticipated to begin in 2006, with construction starting in 2008.
Updated Marin Countywide Plan (County of Marin)	The County of Marin is currently in the process of updating the Marin Countywide Plan. The CWP is a general plan for the county that is used as a strategic document to guide decisions on development, land use, traffic, and other issues. A draft EIR has been released and should be finalized in 2006.

Resource-Specific Assessment of Impacts

Land Use and Planning – General Land Use

Laws, Regulations, Policies, and Criteria Guiding Impact Analysis

Tomales Bay and the Point Reyes region falls within a complex, multi-jurisdictional region, with lands in a variety of ownership, including private, County, local water districts, state agencies (State Land Commission, state parks, Wildlife Conservation Board, CalTrans), and federal agencies such as the Park Service and the U.S. Coast Guard. Several agencies and organizations have established land use plans or guidance for development within this unincorporated portion of Marin County. These land use plans or guidances include the Point Reyes Station Community Plan, the Marin County Local Coastal Program (LCP) Unit II, the Marin Countywide Plan, and the Marin County Zoning Ordinance. In the Coastal Zone of California, LCPs actually supersede all local land use planning and take precedence over all other local policies and zoning on state, local, and privately owned lands. The Project Area falls within the Marin County LCP Unit II. On federal lands, projects are guided both by the LCP (Marin County Comprehensive Planning Department 1981) – as federal agencies must be consistent with the policies of the Coastal Act – and the General Management Plan (GMP). A description of these federal, state, and local policies can be found in Chapter 3 under Land Use and Planning.

Many of the policies regarding general land use have been directly incorporated into significance criteria established under both state and county CEQA guidelines.

General Assumptions and Methodologies

- Relevant policies differ depending on land ownership.
- Park Service lands, including the Giacomini Ranch and the southern portion of Olema Marsh, are subject to the LCP and GMP policies.
- State, local, and privately owned lands, including the undiked marsh north of Giacomini Ranch, the northern portion of Olema Marsh, White House Pool and Green Bridge County Parks, and most of Lagunitas Creek, are subject to the LCP, the Marin CWP, and, in some instances, the Point Reyes Station Community Plan.



- For each alternative, consistency with the relevant land use, zoning, and agricultural of policies is evaluated. Impacts were considered major under NEPA or substantial and significant under CEQA if the policy was violated.
- ***Certain policies relating to geologic hazards, streams, water quality, wetlands, riparian buffers, flooding, water supply and other public services, public access, visual resources, transportation, noise, and other subjects covered are evaluated under other focused impact topics.***

Specific General Land Use-Related Assumptions and Methodologies

- A number of relevant planning documents have established policies regarding general land use and development.
- In most cases, adherence to relevant policies is evaluated as a whole without individually evaluating specific policies (e.g., LCP policies on development).
- In specific instances, individual policies are evaluated separately, including, but not limited to, those policies that appear strongly relevant to the proposed project or are specific CEQA criteria.
- Depending upon the policy, either an expanded range of impact thresholds are provided (e.g., negligible through major criteria), or, for policies that appear to involve strictly compliance or no compliance, the range is collapsed to two or three criteria such as 1) no impact, 2) negligible/minor/moderate, and 3) major under NEPA or substantial under CEQA.

Described below are specific assumptions and methodologies for some of the impact indicators outlined in Table 24.

- *LCP -- Natural Resources on Federal Parklands:* Impact thresholds were scaled to encompass a range of activities expected to occur under existing management plans on federal parklands from activities expected to have barely detectable effects on parklands such as vegetation clearing associated with road and trail maintenance (negligible) to substantial activities such as large-scale controlled burns (major).
- *Community Station Plan -- Increase Demand for Recreational Facilities:* Effects on demand in the local community for recreational facilities are evaluated under this impact indicator. Effects on existing recreational facilities are evaluated under Visitor and Resident Experience.
- *Community Station Plan -- Induce Substantial Growth:* Marin County has substantially lower overall growth rate (0.6 percent) in 2005 compared to many fast-growing counties in California that exceed 2 to 3 percent as a whole (California Department of Finance 2006). Because of this, impact thresholds were scaled to reflect growth rates only among Marin County cities, with Novato having the highest growth rates (1.4 percent), San Rafael and other cities showing slight increases (0.5-0.6 percent). A comparison of growth rates among other San Francisco Bay region cities suggested that Novato grew at a moderate pace in comparison to some other cities in the generally slow-growing San Francisco Bay region, including Dublin, Oakley, American Canyon, San Ramon, Emeryville, and Brentwood, which ranged from 3.0 to 9.1 percent growth in 2005 (California Department of Finance 2006). Point Reyes Station currently has 362 existing residential units and, based on zoning, there is potential for 326 additional residential units (Point Reyes Station Community Plan; Marin County Community Development Agency 2001). Based on the assumption of 2 percent being a high growth rate relative to other Marin County communities, proposed projects that would result in the addition of more than 7 new housing units would be considered a major effect under NEPA and a substantial effect under CEQA.
- *Community Station Plan -- Displace Existing Housing:* To maintain equitable standards of evaluation, potential displacement of existing housing was evaluated using the same impacts thresholds as inducement of substantial growth.

TABLE 24. LAND USE AND PLANNING- GENERAL LAND USE

Source: Seashore/north district GGNRA General Management Plan, LCP Zone II/CCC, Marin CEQA guidelines, Community Plan
Nature: Beneficial, Adverse
Context: Regional
Duration: Long-Term
Seashore/north district GGNRA General Management Plan
Context: Regional (Park Service lands)



TABLE 24. LAND USE AND PLANNING- GENERAL LAND USE

Would conflict with general policies of the GMP or constitute an impairment of land use standards.	No Impact/ Not Applicable	The proposed project would NOT affect GMP policies or land use standards established in enabling legislation; land use-related resources identified as critical to parks; or land use-related goals in Park Service management policies.
	Negligible/ Minor/ Moderate	The proposed project would NOT conflict with general policies of GMP or constitute an impairment of land use standards established in enabling legislation; land use-related resources identified as critical to parks; or land use-related goals in Park Service management policies park resources.
	Major	The proposed project would conflict with general policies of GMP.
Local Coastal Program Context: Regional (Zone II; Park Service, State, Local, and Privately Owned Lands)		
Would involve the modification or alteration of natural resources on federal parklands?	No Impact/ Not Applicable	The proposed project would NOT involve the modification or alteration of natural resources on federal parklands.
	Negligible	The proposed project would involve the alteration of natural resources on federal parklands, but impacts would be relatively negligible (<0.001 percent of the total park area or <1 acre) and would be related to such activities as vegetation clearing near existing roads and trails.
	Minor	Would involve the alteration of natural resources on federal parklands, but impacts would be relatively small (<0.01 percent of the total park area or < 8 acres).
	Moderate	Would involve the alteration of natural resources on federal parklands, but impacts would be relatively moderate (<0.1 percent of the total park area or < 80 acres)
	Major	Would involve the alteration of natural resources on federal parklands, and the impacts would be major (>0.1 percent of the total park area or ≥ 80 acres).
Coastal Resources and Planning Management Policies Context: Regional (Coastal Zone; Park Service, State, Local, and Privately Owned Lands)		
Would conflict with general policies on development in the Coastal Zone (Article 6)?	No Impact/ Not Applicable	The proposed project would NOT affect development in the Coastal Zone
	Negligible/ Minor/ Moderate	The proposed project would affect development in the Coastal Zone, but would comply with policies.
	Major or Substantial	The proposed project would affect development in the Coastal Zone and conflict with general policies on development.
Would conflict with general policies on industrial development in the Coastal Zone (Article 7)?	No Impact/ Not Applicable	The proposed project would NOT affect industrial development in the Coastal Zone.
	Negligible/ Minor/ Moderate	The proposed project would affect industrial development in the Coastal Zone, but would comply with policies.
	Major or Substantial	The proposed project would affect industrial development in the Coastal Zone and conflict with general policies on industrial development.
Point Reyes Station Community Plan/Marin Countywide Plan Context: Local Community, Regional (Marin County; State, Local, and Privately Owned Lands)		
Would conflict with land-use related policies of Marin CWP, including land use designation or zoning standards?	No Impact/ Not Applicable	The proposed project would NOT affect land use.
	Negligible/ Minor/ Moderate	The proposed project would affect land use, but would not conflict with land use-related policies of Marin CWP, including land use designation or zoning standards.

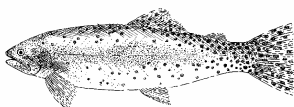


TABLE 24. LAND USE AND PLANNING- GENERAL LAND USE

	Major or Substantial	The proposed project would affect land uses and conflict with land use-related policies of Marin CWP, including land use designation or zoning standards.
Would conflict with applicable environmental plans or policies adopted by Marin County?	No Impact/ Not Applicable	The proposed project would NOT affect environmental plans or policies adopted by Marin County.
	Negligible/ Minor/ Moderate	The proposed project would affect environmental plans or policies adopted by Marin County, but would NOT conflict with them.
	Major or Substantial	The proposed project would conflict with environmental plans or policies adopted by Marin County.
Result in substantial alteration of the character or functioning of the community or present or planned future use of an area?	No Impact/ Not Applicable	The proposed project would NOT affect the character or functioning of the community or present or planned future use of an area.
	Negligible	The proposed project would have negligible effect on the character or functioning of the community or present or planned future use of an area with change barely perceptible to town residents.
	Minor	The proposed project would have minor effect on the character or functioning of the community or present or planned future use of an area by causing a noticeable change, but one that does not alter the character or the functioning of the community.
	Moderate	The proposed project would have moderate effect on the character or functioning of the community or present or planned future use of an area by causing an apparent or appreciable change that would affect the rural character or functioning of the community or present or planned future use of an area to some degree.
	Major or Substantial	The proposed project would result in substantial alteration of the character or functioning of the community or present or planned future use of an area.
Substantially increase demand for parks or other recreational facilities?	No Impact/ Not Applicable	The proposed project would NOT affect demand for neighborhood or regional parks or other recreational facilities.
	Negligible/ Minor/ Moderate	The proposed project would affect demand for neighborhood or regional parks or other recreational facilities, but not substantially.
	Major or Substantial	The proposed project would substantially increase the demand for neighborhood or regional parks or other recreational facilities or affecting existing recreational opportunities.
Increase density that would exceed the official population projections for the planning area within which the Project Area is located as set forth in either the CWP or Community Plan?	No Impact/ Not Applicable	The proposed project would NOT affect density for the planning area.
	Negligible/ Minor/ Moderate	The proposed project would affect density, but would NOT exceed the official population projections for the planning area.
	Major or Substantial	The proposed project would increase density such that it would exceed the official population projections for the planning area.
Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	No Impact/ Not Applicable	The proposed project would NOT induce growth in an area either directly or indirectly.
	Negligible	The proposed project would induce negligible growth (<<1 percent) or up to approximately two (2) new housing units in the area either directly or indirectly.
	Minor	The proposed project would induce minor growth (~1 percent) or between three (3) and four (4) new housing units in the area either directly or indirectly.

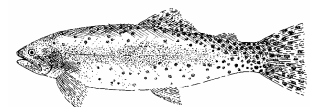


TABLE 24. LAND USE AND PLANNING- GENERAL LAND USE

	Moderate	The proposed project would induce moderate growth (< 2 percent) or between five (5) and seven (7) new housing units in the area either directly or indirectly.
	Major or Substantial	The proposed project would induce substantial growth (> 2 percent) or more than seven (7) new housing units in the area either directly or indirectly.
Displace existing housing, especially affordable housing?	No Impact/ Not Applicable	The proposed project would NOT affect existing housing.
	Negligible	The proposed project would have negligible effect on existing housing in area through loss of < 1 percent (\leq 2 housing units) of homes present in 2000.
	Minor	The proposed project would have minor effect on existing housing in area through loss of ~ 1.0 percent (\leq 4 housing units) of homes present in 2000.
	Moderate	The proposed project would have moderate effect on existing housing in area through loss of < 2.0 percent (\leq 7 housing units) of homes present in 2000.
	Major	The proposed project would have major or substantial effect on existing housing in area through loss of > 2.0 percent (> 7 housing units) of homes present in 2000.

Impact Analysis

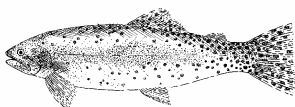
TABLE 25. INTENSITY, NATURE, TYPE, DURATION, AND CONTEXT OF IMPACTS FOR LAND USE AND PLANNING – GENERAL LAND USE.

All impacts assumed to be Adverse unless otherwise stated, Long-Term, and Local Community (Point Reyes) or Regional (LCP Zone II, Marin County, or Seashore/north district of the GGNRA).

	No Action	Alternative A	Alternative B	Alternative C	Alternative D
Impact Indicator	Intensity, Nature, Type, Duration, and Context of Impact				
Conflict with GMP Policies	No Impact	No Impact	No Impact	No Impact	No Impact
Modification of Natural Resources on Parklands	Beneficial - Moderate	Beneficial - Major	Beneficial - Major	Beneficial - Major	Beneficial - Major
Conflict with Development Policies in Coastal Zone	No Impact	No Impact	No Impact	No Impact	No Impact
Conflict with Industrial Development Policies in Coastal Zone	No Impact	No Impact	No Impact	No Impact	No Impact
Conflict with County Land Use Policies	Negligible/ Minor	Negligible/ Minor	Negligible/ Minor	Negligible/ Minor	Negligible/ Minor
Conflict with County Environmental Plans/Policies	Negligible/ Minor	Negligible/ Minor	Negligible/ Minor	Negligible/ Minor	Negligible/ Minor
Alter Character of Community	Minor	Minor	Minor	Minor	Minor
Increase Demand for Parks	No Impact	No Impact	No Impact	No Impact	No Impact
Increase Density Beyond Population Projections	No Impact	No Impact	No Impact	No Impact	No Impact
Induce Substantial Growth Directly or Indirectly	No Impact	No Impact	No Impact	No Impact	No Impact
Displace Existing Housing	Negligible	Negligible	Negligible	Negligible	Negligible

No Action Alternative

Analysis: The impacts of the No Action Alternative would generally range from an adverse minor impact to a beneficial moderate impact on general and park-related land use and land use and development policies in the Seashore and local community (Table 25). Under this alternative, the Project Area would be operated in compliance with existing Park Service management policies, General Management Plans (NPS 1980), and plans and policies established by the Park Service, the Seashore, and the California Coastal Commission (CCC) regarding general land use within parks and, where relevant, other local land use policies.



Relative to baseline conditions, the No Action Alternatives does have the potential to cause moderate beneficial impacts to natural resources on federal parklands through compliance with the Park Service's existing mitigation agreement with CalTrans, under which the Park Service is required to restore a minimum of 3.6 acres of wetland. The Park Service is proposing to restore up to 11 acres of wetlands to ensure that mitigation requirements are satisfied and to minimize the amount of levee removal and new levee construction that would need to be performed (see Chapter 2 for more detailed description). Also, under the Park Service's existing purchase agreement with the Giacomini Trust, the Reservation of Use Agreement with the Giacomini family would expire in March 2007, at which point the dairy would close. With the close of the dairy, all maintenance and other agricultural management practices would cease, although there would be the potential for a leased grazed through a separate environmental review process. The intensity of leased grazing would be expected to be lower than that under baseline conditions, and it is possible that the Seashore would institute requirements on resource setbacks and on the intensity, duration, and timing of grazing. These factors would be expected to have a beneficial effect on natural resources.

The No Action Alternative would have no impact on most of the LCP, Marin County, and Point Reyes Station Community Plan policies relating to development. This alternative would have a negligible/minor effect on County Land Use policies such that land use in the Giacomini Ranch might potentially be changed from a dairy to grazing land or open space, but this conversion would not conflict with this property's Agricultural Production – 60 (A-60) zoning. The close of the dairy would result in the loss of worker housing adjacent to Tomasini Creek and in Inverness Park, which would have a negligible adverse effect on housing. This issue is discussed further under Land Use and Planning – Agricultural Land Use. This alternative would have the potential to affect County environmental plans and policies, but actions would be expected to be consistent, and, so, therefore, impacts would be negligible/minor.

Conversion of the dairy to either leased grazing or open space would have the potential to alter the character or functioning of the Point Reyes Station community or the present or planned future use of an area. This effect would be expected to be noticeable due to the removal of the dairy facility and odors and sounds associated with the dairy that permeate the town of Point Reyes Station. However, the removal of the dairy would not be expected to alter the rural character or functioning of the community, and from public comments made during scoping, workshop, and other meetings, it is apparent that many in the local community would welcome removal of the truck-related noise and odors of the dairy. Therefore, this alternative would have only minor impacts on Point Reyes Station Community Plans related to altering character of the community.

This alternative would conflict to some degree with policies stated in the Point Reyes Station Community Plan that call for restoration of the former tidal marshes at the headwaters of Tomales Bay to natural conditions and protection of Tomasini Creek and restoration of the creek to its historic alignment in the East Pasture.

Possible Additional Mitigation Measures: No additional mitigation measures would be performed.

Effectiveness of Possible Additional Mitigation Measures: Not applicable.

Cumulative Impacts: Projects with the potential to have cumulative effects with this alternative would be the potential commercial-residential development along C Street in Point Reyes Station and a proposed project by Pacific Artisans LLC to develop four homes on a property near Pt. Reyes Petaluma Road and State Route 1. While not even a formal proposal, the former project was considered to be on the outer envelope of reasonably foreseeable, as the highest and best uses of the former dairy facility lands that are owned by the Giacomini Trust would be residential or commercial development. As this alternative would have no direct or indirect impacts on land use policies relative to development, it is unlikely that there would be a cumulative effect on development in the local community. This alternative could enhance the attractiveness of building in the Project Area vicinity to some degree, but this alternative and the others are unlikely to ultimately affect the development future of lands in the Project Area vicinity, as this region is already scenic and highly attractive from a development viewpoint.

However, there could be a cumulative adverse effect on the rural character and functioning of the community. The degree of change that would result from conversion of the dairy to leased grazing or open space, combined with potential development of up to 10 homes on Point Reyes Mesa, would cause a noticeable change, but the likelihood that these changes would cumulatively result in a large enough change to alter the rural character or functioning of the community is low. Even with development of these homes, these projects



would be unlikely to have more than a minor adverse effect on the character and functioning of the community, because they are unlikely to affect the rural character of Point Reyes and the Project Area vicinity. Potential additional residential unit distributions within the town of Point Reyes Station as specified in the Community Plan allows for almost a potential doubling of the number of homes from 362 to 688 within the planning area (Marin County Community Development Agency 2001). The maximum number of CRAB-2 (10,000 square-foot-minimum lots) units that could potentially be built under this plan was listed as 7, with CRAB-3 (Residential Agriculture 20,000 square-foot-minimum lots) having 140 additional potential units (Marin County Community Development Agency 2001). In combination with the proposed project, full build-out of all the residential unit distributions specified within the Community Plan would have a major or substantial impact on the rural character and functioning of the local community, however, it is not reasonably foreseeable that a build-out of this magnitude would occur given the decades-long emphasis on slow or no residential growth.

Impairment Analysis: This alternative would not impair a resource identified in the Organic Act or as a goal in Park Service management policies or considered as necessary to fulfillment of purposes identified in enabling legislation or key to the natural or cultural integrity of the park.

Conclusions: The impacts of the No Action Alternative would generally range from an adverse minor impact to a beneficial moderate impact on general and park-related land use and land use and development policies in the Seashore and local community. It would have a moderate beneficial effect on natural resources on parklands through a small wetland restoration/mitigation component and the discontinuation of intensive agricultural management practices, if not necessarily grazing. This alternative does have the potential, particularly in combination with some proposed and reasonably foreseeable housing development projects in Point Reyes Station, to have a minor adverse effect on the rural character and functioning of the local community by causing a noticeable change in conditions, but this change would not be expected to noticeably alter the rural nature of the local community and environs.

Alternative A

Analysis: Alternative A would have very similar effects as the No Action Alternative on general and park-related land use and land use and development policies in the Seashore and the local community, with a few exceptions (Table 25). Under Alternative A, the East Pasture would be restored, with new public access facilities limited to the eastern and southern perimeters of the East Pasture. There would be no restoration or construction of new public access facilities in the West Pasture or Olema Marsh. The increase in scale of restoration efforts under Alternative A would elevate the potential intensity of effects on CCC policies regarding modification of natural resources on parklands from beneficial and moderate under the No Action Alternative to major and beneficial under Alternative A.

As with the No Action Alternative, Alternative A would have no impact on most of the LCP, Marin County, and Point Reyes Station Community Plan policies relating to development and would have only a negligible/minor effect on County Land Use policies such that land use in the Giacomini Ranch would be changed from a dairy to open space. This issue is discussed further under Land Use and Planning – Agricultural Land Use. As under the No Action Alternative, the close of the dairy would result in the loss of worker housing located adjacent to Tomasini Creek and in Inverness Park, which would have a negligible adverse effect on housing. This alternative would have the potential to affect County environmental plans and policies, but actions would be expected to be consistent, and, so, therefore, impacts would be negligible/minor.

Conversion of the dairy to open space would have the potential to have a minor effect or alteration of the character or functioning of the Point Reyes Station community or the present or planned future use of an area. This effect would be expected to be potentially slightly more noticeable than under the No Action Alternative due to the fact that there would be no potential for leased grazing that would have retained some of the agricultural character of the Giacomini Ranch. However, the removal of the dairy and conversion to tidal marsh and uplands would not be expected to alter the rural character or functioning of the community, and from public comments made during scoping, workshop, and other meetings, it is apparent that many in the local community would welcome removal of the truck-related noise and odors of the dairy.

Unlike the No Action Alternative, this alternative would not conflict with policies stated in the Point Reyes Station Community Plan that call for restoration of the former tidal marshes at the headwaters of Tomales Bay



to natural conditions, although it would not restore Tomasini Creek to its historic alignment as was identified in one of the other Community Plan policies.

Possible Additional Mitigation Measures: No additional mitigation measures would be performed.

Effectiveness of Possible Additional Mitigation Measures: Not applicable.

Cumulative Impacts: Cumulative impacts would be the same as described under the No Action Alternative.

Impairment Analysis: This alternative would not impair a resource identified in the Organic Act or as a goal in Park Service management policies or considered as necessary to fulfillment of purposes identified in enabling legislation or key to the natural or cultural integrity of the park.

Conclusions: The impacts of Alternative A would generally range from minor adverse to beneficial major impacts on general and park-related land use and land use and development policies in the Seashore and local community. It would have a major beneficial effect on natural resources on parklands through restoration of the East Pasture, discontinuation of agricultural management practices and grazing, and removal of agricultural infrastructure. As with the No Action Alternative, this alternative does have the potential, particularly in combination with some proposed and reasonably foreseeable housing development projects in Point Reyes Station, to have a minor adverse effect on the rural character and functioning of the local community by causing a noticeable change in conditions, but this change would not be expected to fundamentally alter the rural nature of the local community and environs.

Alternative B

Analysis: Alternative B would have identical similar effects as Alternative A on general land use and land use policies in the Seashore and the local community (Table 25).

Possible Additional Mitigation Measures: No additional mitigation measures would be performed.

Effectiveness of Possible Additional Mitigation Measures: Not applicable.

Cumulative Impacts: Cumulative impacts would be the same as described under the No Action Alternative.

Impairment Analysis: This alternative would not impair a resource identified in the Organic Act or as a goal in Park Service management policies or considered as necessary to fulfillment of purposes identified in enabling legislation or key to the natural or cultural integrity of the park.

Conclusions: Alternative B would generally have identical impacts as Alternative A on general and park-related land use and land use and development policies in the Seashore and local community, with the intensity of effects ranging from no impact to major beneficial. It would have a major beneficial effect on natural resources on parklands through restoration of the East and West Pastures, discontinuation of agricultural management practices and grazing, and removal of agricultural infrastructure. As with Alternative A, this alternative does have the potential, particularly in combination with some proposed and reasonably foreseeable housing development projects in Point Reyes Station, to have a minor adverse effect on the rural character and functioning of the local community by causing a noticeable change in conditions, but this change would not be expected to fundamentally alter the rural nature of the local community and environs.

Alternative C

Analysis: Alternative C would have almost identical effects as Alternative A on general and park-related land use and land use policies in the Seashore and the local community, with one exception (Table 25).

Unlike the No Action Alternative and Alternatives A and B, this alternative would involve restoration of at least a portion of Tomasini Creek within the Project Area to one of its historic alignments, as well as restoring former tidal marshes at the headwaters of Tomales Bay to natural conditions. Both of these objectives are



incorporated into the Point Reyes Station Community Plan (Marin County Community Development Agency 2001).

Possible Additional Mitigation Measures: No additional mitigation measures would be performed.

Effectiveness of Possible Additional Mitigation Measures: Not applicable.

Cumulative Impacts: Cumulative effects would be the same as described under the No Action Alternative.

Impairment Analysis: This alternative would not impair a resource identified in the Organic Act or as a goal in Park Service management policies or considered as necessary to fulfillment of purposes identified in enabling legislation or key to the natural or cultural integrity of the park.

Conclusions: Alternative C would generally have almost identical effects to Alternative A on general and park-related land use and land use and development policies in the Seashore and local community, with the intensity of effects ranging from minor adverse to major beneficial. It would have a major beneficial effect on natural resources on parklands through restoration of the East Pasture and West Pasture and Olema Marsh, discontinuation of agricultural management practices and grazing, and removal of agricultural infrastructure. Unlike the No Action and Alternatives A and B, this alternative would at least partially comply with objectives stated in the Point Reyes Station Community Plan regarding realignment of Tomasini Creek in the Project Area into its historic alignment, as well as restoration of former tidal marshes at the head of Tomales Bay. As with Alternative A, this alternative does have the potential, particularly in combination with some proposed and reasonably foreseeable housing development projects in Point Reyes Station, to have a minor adverse effect on the rural character and functioning of the local community by causing a noticeable change in conditions, but this change would not be expected to fundamentally alter the rural nature of the local community and environs.

Alternative D

Analysis: Alternative D would have almost identical effects as Alternative C on general and park-related land use and land use policies in the Seashore and the local community, with one exception (Table 25).

Unlike Alternative C, this alternative would involve restoration of the entire portion of Tomasini Creek within the Project Area to one of its historic alignments, as well as restoring former tidal marshes at the headwaters of Tomales Bay to natural conditions. Both of these objectives are incorporated into the Point Reyes Station Community Plan (Marin County Community Development Agency 2001).

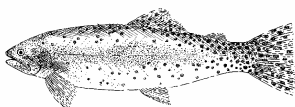
Possible Additional Mitigation Measures: No additional mitigation measures would be performed.

Effectiveness of Possible Additional Mitigation Measures: Not applicable.

Cumulative Impacts: Cumulative effects would be the same as described under the No Action Alternative.

Impairment Analysis: This alternative would not impair a resource identified in the Organic Act or as a goal in Park Service management policies or considered as necessary to fulfillment of purposes identified in enabling legislation or key to the natural or cultural integrity of the park.

Conclusions: Alternative D would generally have almost identical effects to Alternatives A, B, and C on general and park-related land use and land use and development policies in the Seashore and local community, with the intensity of effects ranging from minor adverse to major beneficial. It would have a major beneficial effect on natural resources on parklands through restoration of the East Pasture and West Pasture and Olema Marsh, discontinuation of agricultural management practices and grazing, and removal of agricultural infrastructure. Unlike Alternative C, this alternative would wholly comply with objectives stated in the Point Reyes Station Community Plan regarding realignment of Tomasini Creek in the Project Area into its historic alignment, as well as restoration of former tidal marshes at the head of Tomales Bay. As with Alternative A, this alternative does have the potential, particularly in combination with some proposed and reasonably foreseeable housing development projects in Point Reyes Station, to have a minor adverse effect



on the rural character and functioning of the local community by causing a noticeable change in conditions, but this change would not be expected to fundamentally alter the rural nature of the local community and environs.

Land Use and Planning – Agricultural Land Use

Laws, Regulations, Policies, and Criteria Guiding Impact Analysis

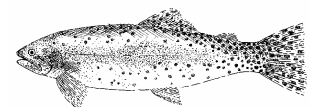
Farmland is protected under various federal, state, and local laws, regulations, and policies. At a federal level, the Farmland Protection Policy Act is intended to minimize the impact federal programs have on the unnecessary conversion of farmland to non-agricultural uses. Because of the value of agriculture to Marin's economy and its scenic pastoral landscape, the County and Coastal Zone LCP (Marin County Comprehensive Planning Department 1981) have both identified maintenance of agriculture as a high priority. A more detailed description of federal and county agricultural land use policies can be found under Land Use and Planning in Chapter 3.

The LCP for Zone II (Marin County Community Development Agency 1981), which includes the Project Area, incorporates several agricultural-related policies for both federal parklands and state, local, and private lands. One of these policies concerns potential changes to lands zoned as Agricultural Production Zone. LCP policies strive to protect and enhance continued agricultural use and to contribute to agricultural viability within the region (Marin County Community Planning Agency 1981). Development of these lands must conform to either permitted or conditional uses specified in the LCP for Agricultural Production Zone lands. Permitted uses include livestock and poultry; horses; dairy and poultry farming; vegetable, fruit, nut, and field crops; nursery products; and single family dwelling. Conditional uses include land divisions, fish hatcheries, greenhouses, game or nature preserve or refuge, public or private recreational activities such as hunting, fishing, and camping. One of the conditions of development is that the proposed land division or development would not conflict with the continuation of agriculture on adjacent parcels and that the proposed development would have no significant adverse impacts on environmental quality or natural habitats, including stream and riparian habitats and scenic resources.

State and local agencies have developed significance criteria under CEQA that address impacts to agricultural resources such as soils, operations, and contracts such as the Williamson Act contracts, which provides lower property tax assessments to farmers in exchange for limiting land use to agricultural or open space-related purposes. Under Public Resources Code Section 21060.1 of CEQA, the Farmland Mapping and Monitoring Program (FMMP) is used to define agricultural land for the purposes of assessing environmental impacts to agricultural lands under CEQA. Impacts to these agricultural lands can be evaluated using a California Agricultural Land Evaluation and Site Assessment (LESA) program, which is the state version of the LESA developed by the National Resources Conservation Service (NRCS) for federal agencies. LESA provides lead agencies with an optional methodology to ensure that potentially significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the CEQA environmental review process (Public Resources Code Section 21095).

Specific Agricultural Land Use-Related Assumptions

- Because of the importance of agriculture to West Marin and Marin County in general, a number of relevant planning documents have established policies regarding agriculture.
- All potential impacts related to agriculture are evaluated in this section, including impacts to Williamson Tract lands, Prime and Unique Farmland soils, effects on agricultural resources and operations, and adjacent agricultural land use, etc.
- In general, potential impacts to agricultural lands and resources that are protected through federal, state, and local laws, regulations, and policies will be evaluated through use of the California LESA Model analysis, which is recommended by the state.
- Certain CEQA significance criteria that do not appear to be covered by the LESA evaluation are addressed in separate impact indicators below.
- The California Agricultural LESA methodology establishes a series of alternate scores for assessing intensity of impacts to agricultural resources and determining whether they are significant or less-than-significant. For this document, an expanded range of impact thresholds has been developed based on LESA guidelines for evaluation of the intensity of impacts.



- Ratings are separated into two major categories: Land Evaluation and Site Analysis. Land Evaluation assesses the Land Capability Classification and the Storie Index Ratings, which are two different systems for classifying the agricultural productivity or value of soils. The Site Analysis component focuses on the size of the Project Area; water resources availability; surrounding agricultural land use; and surrounding protected resource land rating.
- The LESA Instruction Manual (California Department of Conservation 1997) incorporates guidance on the significance of impacts to agricultural resources under CEQA through evaluating total scores for both rating categories, as well as separate consideration of subscores for Land Evaluation and Site Analysis.
- CEQA guidance only includes scores for those impacts considered “major” or “significant” under CEQA and does not provide detailed impact thresholds for negligible, minor, or moderate effects. An expanded range of impact thresholds was developed by dividing less than significant scores equally, when possible.
- Depending upon the policy, either an expanded range of impact thresholds is provided (e.g., negligible through major criteria), or, for policies that appear to involve strictly compliance or no compliance, the range is condensed into two or three thresholds such as 1) no impact, 2) negligible/minor, and 3) moderate/major.

TABLE 26. LAND USE AND PLANNING - AGRICULTURAL LAND USE

Source: Seashore/north district GGNRA General Management Plan, LCP Zone II/CCC, Marin CEQA guidelines, Community Plan Nature: Beneficial, Adverse Context: Regional Duration: Long-Term		
Seashore/north district GGNRA General Management Plan Context: Regional (Park Service lands)		
Would conflict with general policies of the GMP regarding agriculture or agricultural land uses or constitute an impairment of agricultural resources identified in enabling legislation.	No Impact/ Not Applicable	The proposed project would NOT affect GMP policies regarding agriculture or agricultural land uses.
	Negligible/ Minor/ Moderate	The proposed would NOT conflict with general policies of GMP regarding agriculture or agricultural land uses.
	Major	The proposed project would conflict with general policies of GMP regarding agricultural or agricultural land uses.
Local Coastal Program Context: Regional (Zone II; Park Service, State, Local, and Privately Owned Lands)		
Would discontinue agricultural land uses in the GGNRA and Seashore or would continue them at a level which is not compatible with protection of natural resources and public recreational uses?	No Impact/ Not Applicable	The proposed project would NOT affect agricultural lands in the GGNRA or the Seashore
	Negligible	Beneficial: The intensity of agricultural management on park lands would be reduced slightly to increase compatibility of agricultural land use with resource protection. Adverse: The intensity of agricultural management on park lands would be increased slightly where agriculture is NOT compatible with resource protection; OR would be reduced slightly where agriculture land use is compatible with resource protection.
	Minor	Beneficial: The intensity of agricultural management on park lands would be reduced measurably where agricultural land use is NOT compatible with resource protection. Adverse: The intensity of agricultural management on park lands would be increased measurably where agriculture is NOT compatible with resource protection; OR would be reduced measurably where agriculture land use is compatible with resource protection.



TABLE 26. LAND USE AND PLANNING - AGRICULTURAL LAND USE

	Moderate	<p>Beneficial: The intensity of agricultural management on park lands would be reduced appreciably where agricultural land use is NOT compatible with resource protection.</p> <p>Adverse: The intensity of agricultural management on park lands would be increased appreciably where agriculture is NOT compatible with resource protection; OR would be reduced appreciably where agriculture land use is compatible with resource protection.</p>
	Major or Substantial	<p>Beneficial: Agricultural management on park lands would be discontinued where agriculture is NOT compatible with resource protection.</p> <p>Adverse: The intensity of agricultural management on park lands would be increased substantially where agriculture is NOT compatible with resource protection; OR would be discontinued where agriculture land use is compatible with resource protection.</p>
Would affect the use of lands in the Agricultural	No Impact/ Not Applicable	The proposed project would NOT affect agricultural lands in the Agricultural Production Zone.
Production Zone (e.g., lands zoned A-60) and not be either	Negligible	The proposed project would affect the use of lands in the Agricultural Production Zone, but would be a permitted use.
a permitted or conditional use?	Minor/ Moderate	The proposed project would affect the use of lands in the Agricultural Production Zone and would be a conditional use.
	Major or Substantial	The proposed project would affect the use of lands in the Agricultural Production Zone and not be either a permitted or conditional use.
Coastal Resources and Planning Management Policies		
Context: Regional (Coastal Zone; Park Service, State, Local, and Privately Owned Lands)		
Would conflict with general policies on agriculture in the Coastal Zone, specifically on agricultural conversions (Article 5, Sections 30241, Sections 30242)?	No Impact/ Not Applicable	Would NOT affect agricultural lands in the Coastal Zone.
	Negligible/ Minor/ Moderate	Would affect agricultural lands in the Coastal Zone, but would comply with general policies on conversion of agricultural lands.
	Major or Substantial	Would affect agricultural lands in the Coastal Zone and conflict with general policies on conversion of agricultural lands.
Point Reyes Station Community Plan/Marin Countywide Plan		
Context: Local Community, Regional (Marin County; State, Local, and Privately Owned Lands)		
Affect agricultural or open space contracts (e.g., conflicts with Williamson Act contracts)?	No Impact/ Not Applicable	Would NOT affect agricultural or open space contracts.
	Negligible/ Minor/ Moderate	Would affect contracts, but would maintain use within the range of acceptable uses within the contract (e.g., switch from agricultural to open space lands).
	Major or Substantial	Would adversely affect agricultural and open contracts by converting to use or uses that are NOT within the range of acceptable uses.
Affect agricultural resources (e.g., impacts to productive agricultural soils; lands with sufficient water resources; and from incompatible land uses with adjacent protected lands)? LESA Analysis	No Impact/ Not Applicable	There would be no potential for an impact to agricultural resources.
	Negligible	There would be a barely detectable effect on agricultural resources such that the LESA score would total ≤ 20 points.
	Minor	There would be a measurable effect on agricultural resources such that: 1) the LESA score would total between 20 and 49 points; OR 2) the LESA score would be between 20 and 39 points if the Land Evaluation OR Site Analysis subscores ≥ 20 points.

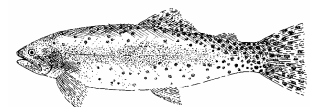


TABLE 26. LAND USE AND PLANNING - AGRICULTURAL LAND USE

	Moderate	There would be an appreciable effect on agricultural resources such that: 1) the LESA score would total between 50 and 79 points; OR 2) the LESA score would be between 40 and 59 points if the Land Evaluation OR Site Analysis subscores ≥ 20 points.
	Major or Substantial	There would be a substantial or major effect on agricultural resources such that: 1) the LESA score would total between 80 and 100 points; OR 2) the LESA score would be between 60 and 79 if the Land Evaluation OR Site Analysis subscores ≥ 20 points; OR 3) the LESA score would be between 40 to 59 points if the Land Evaluation AND Site Analysis subscores ≥ 20 points.

Impact Analysis

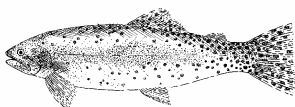
TABLE 27. INTENSITY, NATURE, TYPE, DURATION, AND CONTEXT OF IMPACTS FOR LAND USE AND PLANNING - AGRICULTURAL LAND USE
All impacts assumed to be Adverse unless otherwise stated, Short-Term/Long-Term, and Local Community (Point Reyes) or Regional (LCP Zone II, Marin County, or Seashore/north district of the GGNRA).

	No Action	Alternative A	Alternative B	Alternative C	Alternative D
Impact Indicator	Intensity, Nature, Type, Duration, and Context of Impact				
Conflict with GMP Policies on Agriculture or Agricultural Land Uses	No Impact	No Impact	No Impact	No Impact	No Impact
Discontinue Agriculture on Parklands or Continue at Level Not Compatible with Natural or Public Access Resources	Beneficial Minor/Moderate	Beneficial Major	Beneficial Major	Beneficial Major	Beneficial Major
Affect Use of Lands in Agricultural Production Zone	Negligible/Minor	Minor	Minor	Minor	Minor
Conflict with Policies on Agriculture in Coastal Zone	Negligible/Minor	Negligible/Minor	Negligible/Minor	Negligible/Minor	Negligible/Minor
Affect Agricultural or Open Space Contracts	Negligible/Minor	Negligible/Minor	Negligible/Minor	Negligible/Minor	Negligible/Minor
Affect Agricultural Resources, Operations, or Adjacent Agricultural Land Uses (LESA Analysis)	Negligible/Minor	Minor	Minor	Minor	Minor

No Action Alternative

Analysis: The effects of the No Action Alternative on agricultural lands and federal, state, and local agricultural land use policies would generally range from negligible/minor adverse to beneficial minor/moderate (Table 27). The Giacomini Ranch East and West pastures are currently zoned Agricultural Production Zone (APZ-60) and are covered under a Williamson Act Contract. The portion of Olema Marsh owned by Audubon Canyon Ranch is zoned Open Area, while the portion owned by the Seashore is zoned Agricultural, Residential, Planned. Neither parcel is covered under the Williamson Act or other agricultural or open space contract.

Under the terms of the existing purchase agreement, the Project Area will convert from a dairy in early 2007 to lands that would be largely managed as open space, although there is a potential for leased grazing. The purchase agreement signed in 2000 included a 7-year Reservation of Use Agreement during which time the dairy could continue to be operated until agreement expires in March 2007. At that time, the Park Services assumes full management of the East and West Pastures and a portion of the dairy facility on the Point Reyes Mesa, which includes the old calf barn, manure ponds, and half of the milking barn. The remainder of the dairy facility remains in Giacomini Trust ownership as it was not part of the purchase agreement, thereby effectively splitting the dairy facility operations in half and precluding continued operation of the Giacomini Ranch as a dairy. Portions of the pastures could potentially be leased for grazing of dairy heifers (young cows) or beef cattle through a separate environmental review process. Under this alternative, the scale of agricultural operations relative to baseline conditions, under which the Giacomini Ranch has been operated as a full-scale dairy operation, would either be reduced or eliminated altogether. A reduction in agricultural operations would result if, after the dairy is closed, lands are leased for grazing, because grazing is typically



less intensive. In addition, the Seashore is likely to institute restrictions on leased grazing relating to resource setbacks, stocking density, and duration and timing of grazing. Approximately 11 acres of the East Pasture would be restored to wetlands and would be off limits to grazing cattle.

The potential for either a reduction or discontinuation in agricultural land uses would have a negligible or minor effect on agricultural contracts, as Williamson Act covers agricultural and open space land uses, and on use of lands in the Agricultural Production Zone (APZ). Dairy and livestock operations are both permitted uses under the APZ, while game and nature preserves or refuges are considered conditional uses. There would be no conflict with GMP policies on agriculture or agricultural-related resources.

More than 90 percent of the Giacomini Ranch is wetland and has been impacted by intensive management as a dairy since these historic tidal marsh lands were leveed in the 1940s. These impacts have reduced the quality of wetland conditions in the Giacomini Ranch and have reduced functionality of wetlands that might otherwise play a vital role in improving quality of Tomales Bay, which has been declared impaired by the Regional Water Quality Control Board (RWQCB) for poor water quality. The extensive amount of wetlands present, combined with the frequency of large-scale flooding and prolonged inundation due to its location in the bottomlands of an alluvial valley just downstream of the confluence of several major creeks, lessens the long-term suitability and viability of these lands for agriculture. During its operation as a dairy, the Giacomini family has been required to intensively manage these lands through levees, tidegates, culverts, ditching and dredging, pumping, and irrigation to maintain a viable dairy operation. Continuation of agricultural uses and these types of management practices would not be compatible with resource protection. Therefore, under this alternative, there would be potentially minor to moderate beneficial impacts (depending on potential for leased grazing) impacts to LCP policies regarding discontinuation or continuation of agriculture in federal parklands at levels that are not compatible with resource protection, because agricultural uses would either be reduced or discontinued. For this reason, it would also have only a negligible/minor adverse effect on LCP policies regarding conversion of agricultural lands. Even though lands would be converted from agriculture to open space, it would comply with the general policies regarding conversions, specifically that lands were not suited for agriculture prior to the conversion of agricultural lands (Section 30241 (c)).

An analysis of the potential effects of agricultural land conversion using the LESA model (1997) developed by the California Department of Conservation leads to the conclusion that the effects of converting the Giacomini Ranch from a dairy to leased grazing or open space are either negligible or minor. If leased grazing were permitted in the future, this alternative would result in only a negligible conversion of agricultural land to non-agricultural uses based on a LESA score of less than or equal to 20: the only conversion that would occur would be the approximately 11 acres where the wetland restoration/mitigation component would be performed. If leasing grazing were not permitted, this alternative would have a minor effect on agricultural lands in the Project Area vicinity based on a LESA score of 33.74 points and Site Analysis subscore of 25.18 points. As outlined in Table 27, based on CEQA significance criteria developed by the California Department of Conservation, a significant impact under CEQA would require a LESA score between 80 to 100 points; OR a score between 60 and 79 points if either the Land Evaluation or Site Analysis subscores were greater than or equal to 20 points; OR a LESA score between 40 and 59 points if both the Land Evaluation and Site Analysis subscores were greater than or equal to 20 points. For the more detailed analysis of impact intensity required by the Park Service, the California Department of Conservation significance threshold was broken down into five categories, including No Impact.

Most of the Project Area has soils with a somewhat lower Land Capability Classification Rating of Class IV-VIII, although there was a smaller component where Farmland of Statewide Importance soils occur of LCC Class III. In the immediate vicinity of the Project Area, only 21 percent of the lands were being farmed, with 50 percent protected as resource lands and the rest being commercially or residentially developed. Approximately 26 percent is currently irrigated with either waters obtained from North Marin Water District (NMWD) or direct pumping, but the agreement with NMWD for provision of irrigation waters from the Downey Well would expire in 2007 when the dairy closes, and the potential for provision of -- and viability of obtaining -- irrigation waters from NMWD in the future is both physically and economically uncertain. The Park Service does not plan to continue irrigation once it assumes full management of the Giacomini Ranch.

Possible Additional Mitigation Measures: No mitigation measures would be proposed under this alternative.

Effectiveness of Possible Additional Mitigation Measures: Not applicable



Cumulative Impacts: Projects with potential cumulative impacts would be those that would involve conversion of agricultural lands or discontinuation of agriculture on Park Service and private and other public lands in the local community or West Marin region. It would also include projects that would affect agricultural resources, operations, or adjacent land uses. None of the projects in Table 23 would have substantial enough effects on agriculture that the cumulative impacts of those projects with the proposed project would be considered major or substantial and significant under CEQA, with any potential effects from projects considered negligible in intensity. However, dairies and ranches continue to close down in West Marin due to problems with economic viability and other factors. The closure of ranches in the future combined with the shift in use from full-scale dairy operation to open space and limited grazing would constitute potentially a minor to moderate impact on agricultural economic viability of West Marin agriculture.

Impairment Analysis: This alternative would not impair a resource identified in the Organic Act or as a goal in Park Service management policies or considered as necessary to fulfillment of purposes identified in enabling legislation or key to the natural or cultural integrity of the park.

Conclusions: The impacts of the No Action Alternative on agricultural lands and federal, state, and local agricultural land use policies would generally range from negligible/minor adverse to minor/moderate beneficial. This conversion would comply with local policies on conversion of agricultural lands and lands protected under the Williamson Act, because it would either be retained as grazing land or converted to open space, which is an approved or conditional use of agricultural lands, or because it would comply with exemptions for conversions of lands that were not suited for agriculture prior to the conversion of agricultural lands (Section 30241 (c)). Based on results from the LESA analysis, conversion of the Giacomini Ranch would represent only a negligible or minor adverse impact on agricultural land use in the local community, depending on whether leased grazing is approved. However, cumulative effects of other ranches closing could elevate the impacts from loss of the dairy and conversion to grazing land or open space to the agricultural economic viability of West Marin agriculture to moderate. There would be potentially minor/moderate beneficial impacts relative to LCP policies regarding discontinuation or continuation of agriculture in federal parklands at levels that are not compatible with resource protection, because agricultural uses would either be reduced or discontinued in area that is more than 90 percent wetland. Agricultural management has reduced the quality of wetland conditions in the Giacomini Ranch and functionality of wetlands that might otherwise play a vital role in improving quality of Tomales Bay, which has been declared impaired by the Regional Water Quality Control Board (RWQCB) for poor water quality.

Alternative A

Analysis: The impacts of Alternative A on federal and local agricultural land use policies would generally range from minor adverse to major beneficial (Table 27). As noted under No Action, the Giacomini Ranch East and West pastures are currently zoned Agricultural Production Zone (APZ-60) and are covered under a Williamson Act Contract, while Olema Marsh is zoned Open Area and Agricultural, Residential, Planned and is not covered under the Williamson Act or other agricultural or open space contract. Under this alternative, the Project Area would be maintained as open space, with agricultural uses discontinued. Because open space is an allowable use under the Williamson Act Contract, this alternative would have only negligible/minor effect on agricultural contracts and minor effects on use of lands in the Agricultural Production Zone. Under the APZ, the proposed project would represent a shift from a permitted use (dairying and livestock) to a conditional use – game or nature preserve or refuge. There would be no conflict with GMP policies on agriculture or agricultural-related resources. Based on results of the LESA analysis discussed under the No Action Alternative, the conversion of the Giacomini Ranch would represent a minor impact to agricultural lands in the Project Area vicinity and local community.

With discontinuation of agriculture, there would be potentially major beneficial effects on LCP policies regarding discontinuation or continuation of agriculture in federal parklands at levels that are not compatible with resource protection, because continuation of agricultural uses at baseline conditions would not be compatible with resource protection. More than 90 percent of the Giacomini Ranch is wetland and has been impacted by intensive management as a dairy since these historic tidal marsh lands were leveed in the 1940s. These impacts have reduced the quality of wetland conditions in the Giacomini Ranch and have reduced functionality of wetlands that might otherwise play a vital role in improving the health of Tomales Bay, which has been declared impaired by the Regional Water Quality Control Board (RWQCB) for poor water quality. The



extensive amount of wetlands present, combined with the frequency of large-scale flooding and prolonged inundation due to its location in the bottomlands of an alluvial valley just downstream of the confluence of several major creeks, also lessens the long-term suitability and viability of these lands for agriculture. During its operation as a dairy, the Giacomini family has been required to intensively manage these lands through levees, tidegates, culverts, ditching and dredging, pumping, and irrigation to maintain a viable dairy operation. For this reason, this alternative would have only a negligible/minor on LCP policies regarding conversion of agricultural lands. Even though lands would be converted from agriculture to open space, it would comply with the general policies regarding agricultural land conversions, specifically that lands were not suited for agriculture prior to the conversion of agricultural lands (Section 30241 (c)).

Possible Additional Mitigation Measures: No mitigation measures would be proposed under this alternative.

Effectiveness of Possible Additional Mitigation Measures: Not applicable.

Cumulative Impacts: As with the No Action Alternative, projects with potential cumulative impacts would be those that would involve conversion of agricultural lands or discontinuation of agriculture on Park Service and private and other public lands in the local community or West Marin region. It would also include projects that would affect agricultural resources, operations, or adjacent land uses. None of the projects in Table 23 would have substantial enough effects on agriculture that the cumulative impacts of those projects with the proposed project would be considered major or substantial and significant under CEQA, with any potential effects from projects considered negligible in intensity. However, dairies and ranches continue to close down in West Marin due to problems with economic viability and other factors. The closure of ranches in the future combined with the shift in use from full-scale dairy operation to open space would constitute potentially a moderate impact on agricultural economic viability of West Marin agriculture.

Impairment Analysis: This alternative would not impair a resource identified in the Organic Act or as a goal in Park Service management policies or considered as necessary to fulfillment of purposes identified in enabling legislation or key to the natural or cultural integrity of the park.

Conclusions: The impacts of Alternative A on agricultural lands and federal, state, and local agricultural land use policies would generally range from minor adverse to major beneficial. This conversion would comply with local policies on conversion of agricultural lands and lands protected under the Williamson Act or Agricultural Production Zone zoning, because it would be converted to open space or a wildlife refuge, which is either an approved or conditional use for these types of agricultural lands. It would also comply with exemptions in LCP agricultural land use policies for conversions of lands that were not suited for agriculture prior to the conversion of agricultural lands (Section 30241 (c)). Based on results from the LESA analysis, conversion of the Giacomini Ranch would represent only a minor adverse impact on agricultural land use in the local community. However, cumulative effects of other ranches closing could elevate the impacts from loss of the dairy and conversion to grazing land or open space to the agricultural economic viability of West Marin agriculture to moderate. There would be major beneficial effects relative to LCP policies regarding discontinuation or continuation of agriculture in federal parklands at levels that are not compatible with resource protection, because agricultural uses would either be reduced or discontinued in area that is more than 90 percent wetland. Agricultural management has reduced the quality of wetland conditions in the Giacomini Ranch and functionality of wetlands that might otherwise play a vital role in improving quality of Tomales Bay, which has been declared impaired by the Regional Water Quality Control Board (RWQCB) for poor water quality.

Alternative B

Analysis: Alternative B would have identical impacts to those described under Alternative A (Table 27).

Possible Additional Mitigation Measures: No mitigation measures would be proposed under this alternative.

Effectiveness of Possible Additional Mitigation Measures: Not applicable.

Cumulative Impacts: Cumulative impacts would be the same as discussed under Alternative A.



Impairment Analysis: This alternative would not impair a resource identified in the Organic Act or as a goal in Park Service management policies or considered as necessary to fulfillment of purposes identified in enabling legislation or key to the natural or cultural integrity of the park.

Conclusions: Alternative B would have identical impacts to those described under Alternative A.

Alternative C

Analysis: Alternative C would have identical impacts to those described under Alternative A (Table 27). The impacts of Alternative C on federal and local agricultural land use policies would generally range from minor adverse to major beneficial (Table 27). As noted under No Action, the Giacomini Ranch East and West pastures are currently zoned Agricultural Production Zone (APZ-60) and are covered under a Williamson Act Contract, while Olema Marsh is zoned Open Area and Agricultural, Residential, Planned and is not covered under the Williamson Act or other agricultural or open space contract. Under this alternative, the Project Area would be maintained as open space, with agricultural uses discontinued. Because open space is an allowable use under the Williamson Act Contract, this alternative would have only negligible/minor effect on agricultural contracts and minor effects on use of lands in the Agricultural Production Zone. Under the APZ, the proposed project would represent a shift from a permitted use (dairying and livestock) to a conditional use – game or nature preserve or refuge. There would be no conflict with GMP policies on agriculture or agricultural-related resources. Based on results of the LESA analysis discussed under the No Action Alternative, the conversion of the Giacomini Ranch would represent a minor impact to agricultural lands in the Project Area vicinity and local community.

With discontinuation of agriculture, there would be potentially major beneficial effects on LCP policies regarding discontinuation or continuation of agriculture in federal parklands at levels that are not compatible with resource protection, because continuation of agricultural uses at baseline conditions would not be compatible with resource protection. More than 90 percent of the Giacomini Ranch is wetland and has been impacted by intensive management as a dairy since these historic tidal marsh lands were leveed in the 1940s. These impacts have reduced the quality of wetland conditions in the Giacomini Ranch and have reduced functionality of wetlands that might otherwise play a vital role in improving the health of Tomales Bay, which has been declared impaired by the Regional Water Quality Control Board (RWQCB) for poor water quality. The extensive amount of wetlands present, combined with the frequency of large-scale flooding and prolonged inundation due to its location in the bottomlands of an alluvial valley just downstream of the confluence of several major creeks, also lessens the long-term suitability and viability of these lands for agriculture. During its operation as a dairy, the Giacomini family has been required to intensively manage these lands through levees, tidegates, culverts, ditching and dredging, pumping, and irrigation to maintain a viable dairy operation. For this reason, this alternative would have only a negligible/minor on LCP policies regarding conversion of agricultural lands. Even though lands would be converted from agriculture to open space, it would comply with the general policies regarding agricultural land conversions, specifically that lands were not suited for agriculture prior to the conversion of agricultural lands (Section 30241 (c)).

Possible Additional Mitigation Measures: No mitigation measures would be proposed under this alternative.

Effectiveness of Possible Additional Mitigation Measures: Not applicable.

Cumulative Impacts: Cumulative impacts would be the same as discussed under Alternative A.

Impairment Analysis: This alternative would not impair a resource identified in the Organic Act or as a goal in Park Service management policies or considered as necessary to fulfillment of purposes identified in enabling legislation or key to the natural or cultural integrity of the park.

Conclusions: Alternative C would have identical impacts to those described under Alternative A. The impacts of Alternative C on agricultural lands and federal, state, and local agricultural land use policies would generally range from minor adverse to major beneficial. This conversion would comply with local policies on conversion of agricultural lands and lands protected under the Williamson Act or Agricultural Production Zone zoning, because it would be converted to open space or a wildlife refuge, which is either an approved or



conditional use for these types of agricultural lands. It would also comply with exemptions in LCP agricultural land use policies for conversions of lands that were not suited for agriculture prior to the conversion of agricultural lands (Section 30241 (c)). Based on results from the LESA analysis, conversion of the Giacomini Ranch would represent only a minor adverse impact on agricultural land use in the local community. However, cumulative effects of other ranches closing could elevate the impacts from loss of the dairy and conversion to grazing land or open space to the agricultural economic viability of West Marin agriculture to moderate. There would be major beneficial effects relative to LCP policies regarding discontinuation or continuation of agriculture in federal parklands at levels that are not compatible with resource protection, because agricultural uses would either be reduced or discontinued in area that is more than 90 percent wetland. Agricultural management has reduced the quality of wetland conditions in the Giacomini Ranch and functionality of wetlands that might otherwise play a vital role in improving quality of Tomales Bay, which has been declared impaired by the Regional Water Quality Control Board (RWQCB) for poor water quality.

Alternative D

Analysis: Alternative D would have identical impacts to those described under Alternative C (Table 27).

Possible Additional Mitigation Measures: No mitigation measures would be proposed under this alternative.

Effectiveness of Possible Additional Mitigation Measures: Not applicable.

Cumulative Impacts: Cumulative impacts would be the same as discussed under Alternative A.

Impairment Analysis: This alternative would not impair a resource identified in the Organic Act or as a goal in Park Service management policies or considered as necessary to fulfillment of purposes identified in enabling legislation or key to the natural or cultural integrity of the park.

Conclusions: Alternative D would have identical impacts to those described under Alternative C.

Geologic Resources

Laws, Regulations, Policies, and Criteria Guiding Impact Analysis

Within California, there are two primary legislative acts that govern construction in areas prone to geologic hazards. California's Alquist-Priolo Earthquake Fault Zoning Act (California Public Resources Code Section 2621 et seq.) prohibits the location across the traces of active faults of most types of structures intended for human occupancy and strictly regulates construction of these types of structures in corridors along active faults (earthquake fault zones). The San Andreas Fault Zone (SAFZ) is the only zoned fault within the boundaries of Marin County (Snyder and Smith Associates and Nichols-Berman 2002), and it runs through the center of the Project Area.

While the Alquist-Priolo Act specifically addresses hazards associated with surface fault rupture, the Seismic Hazards Mapping Act of 1990 (California Public Resource Code Sections 2690-2699.6) specifically focuses on other hazards related to earthquakes such as ground shaking, liquefaction, and seismically induced landslides. In unincorporated areas, counties such as Marin are required to regulate development in mapped Seismic Hazard Zones or "zones of required investigation" through requiring appropriate site geologic and soil investigations and mitigation measures as part of permit review. Seismic Hazard Zone maps have only been prepared so far for a few Bay area and southern California counties, and Marin County is not one of these. However, information from state and federal geologic surveys has been used to develop various maps that assess susceptibility to earthquake-related hazards such as ground shaking, liquefaction, and landslides. Some of these maps are presented in Chapter 3 under Geologic Resources.

Local policies such as the LCP and the Point Reyes Station Community Plan emphasize the need for proper planning in known geologic hazard zones to "minimize risks to life and property in areas of high geologic...hazard" (LCP Section 30253). A more detailed description of state and local laws pertaining to geologic resources and hazards can be found under Geologic Resources in Chapter 3.

